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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 16 DEC 2004

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Applicant's or agent's file reference PCT-E3140	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/KR2003/001354	International filing date (day/month/year) 08 JULY 2003 (08.07.2003)	Priority date (day/month/year) 15 JULY 2002 (15.07.2002)
International Patent Classification (IPC) or national classification and IPC IPC7 B82B 3/00		
Applicant HANWHA CHEMICAL CORPORATION et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 3 sheets, including this cover sheet.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the report
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 13 FEBRUARY 2004 (13.02.2004)	Date of completion of this report 18 NOVEMBER 2004 (18.11.2004)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer JWA, Seung Kwan  Telephone No. 82-42-481-5560

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/001354

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the claims:
 pages _____, as originally filed
 pages _____, as amended (together with any statement) under Article 19
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the drawings:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
 pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2003/001354

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1-13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Reference is made to the following documents:

D1 = JP 09-52772

- Claim 1 discloses a process for preparing fine metal oxide particles, comprising the following steps of: a) reacting a reactant mixture comprising i) water, ii) at least one water-soluble metal nitrate and iii) ammonia or ammonium salt at a reaction temperature of 250-700°C under a reaction pressure of 180-550 bar for 0.01 sec to 10 min. in a reaction zone to synthesize the metal oxide particles, the metal nitrate being contained at an amount of 0.01-20 wt% in the reaction; and b) separating and recovering the metal oxide particles from the resulting reaction products.
- D1 discloses fine metal oxide particles prepared by the following steps. A metal ion-containing solution such as a solution prepared by dissolving nickel nitrate hexahydrate in ethanol is mixed with a precursor of oxide ceramics(preferably, a metal alkoxide such as ethyl silicate) under stirring to form a gelatinous material and this material is brought into contact with a precipitate forming agent such as ammonium carbonate. The resultant precipitate is dried and heat-treated in an oxidizing atmosphere to obtain the objective ceramics containing fine metal oxide particles.
- Comparing claim 1 with D1, fine metal oxide particles in claim 1 are manufactured under supercritical or near supercritical water condition, which is so different from the manufacturing method of fine metal oxide particles in D1 that it may not be easily derived by a person skilled in the art.
- Therefore, claim 1 meets the criteria set out in Article 33(2) and (3) PCT because D1 does not teach or fairly suggest a supercritical or near supercritical water condition for preparing fine metal oxide particles of claim 1.
- Claims 2-13 also comply with Article 33(2) and (3) PCT as they are dependent claims on claim 1.